To model the proposed changes, the estimated diversions were added as right turns to inbound MacArthur Boulevard at Arizona Avenue. These turns became left turns at the proposed signal and continued down Canal Road to exit the study area via Whitehurst Freeway. The signal was designed as a pretimed signal, with a 130-second cycle length and was coordinated with the signal at Canal Road/Chain Bridge.

Table 16 shows that the conversion to signalized operation at the intersection of Arizona Avenue and Canal Road would have only; a marginal detrimental effect on traffic operations.

Table 16:
Canal Road and Arizona Avenue

Intersection	Unsignalized LOS	Signalized LOS
Canal Road and Arizona Avenue	A	B
MacArthur Blvd and Arizona Avenue	F	F
Foxhall Road and Canal Road	C	D
Canal Road and Whitehurst Freeway	D	D

Recommendation:

- The existing signal should be modified to allow for left turns from Arizona Avenue to Canal Road during the AM peak hour.

Issue:

- Arizona Avenue cut-through traffic on Cathedral Avenue

Preliminary Improvement(s):

1. Install peak hour Do Not Enter (except local traffic) sign at intersection with Arizona Avenue.
2. Add all-way stop signs at Weaver and 51st Streets
3. Add speed humps between Weaver and 51st Streets, and between Weaver Street and Arizona Avenue.

Evaluation:

1. These signs would deter through traffic from using Cathedral as an alternative to Arizona Avenue, yet still provide access for residents.
2. The all-way stops would provide an inconvenience to drivers who choose to violate the do not enter sign, as well as reduce speed and improve pedestrian safety.
3. The speed humps would provide an inconvenience to drivers who choose to violate the do not enter sign, as well as reduce speed and improve pedestrian safety. The installation of speed humps has negative effects on the operation of emergency vehicles.

Recommendation:

- Install Do Not Enter signs and all-way stop signs. If these measures to not deter cut-through traffic, install speed humps.

Issue:

- Pedestrian access to Capital Crescent Trail

Preliminary Improvement(s):

1. Construct sidewalk on east side of Arizona Avenue from Sherrier Place to Canal Road. Add a crosswalk across Arizona Avenue at Canal Road and pave the pedestrian path from this intersection to the Capital Crescent Trail (Figure 29). Install pedestrian signal heads.

Figure 29

Pedestrian Path from Arizona Avenue to Capital Crescent Trail

2. Construct sidewalk/ramp along face of cliff from Potomac Avenue to trail.

Evaluation:

1. The new sidewalk would be relatively low-cost. Part of the necessary improvements already exists on Arizona Avenue. The new pedestrian facility would allow pedestrians/bicyclists to walk down to the intersection of Canal and Arizona and access the Capital Crescent Trail. Pedestrians are currently crossing this intersection with no crosswalk and no pedestrian signal heads. The proposed improvements would increase pedestrian safety at this intersection.
2. The ramp would provide a means for trail users to reach the trail via Potomac Avenue. A more detailed study would be necessary to determine the feasibility and cost-effectiveness of this option.

Recommendation:

- Implement preliminary improvement 1.

RESERVOIR ROAD

Issue:

- Right turns from left lane of Reservoir Road (west) onto MacArthur Boulevard

Preliminary Improvement(s):

1. Add "NO RIGHT TURN ON RED FROM LEFT LANE" sign to Reservoir Road approach.

Evaluation:

1. Right turns on red should not be permitted from the left lane of a two-lane approach. Because there is no sign prohibiting this movement, some drivers turn right on red from the left lane

Recommendation:

- Install Sign

Issue:

- Inadequate wording on the "DO NOT ENTER" sign at top of hill going towards Canal Road (Figure 30).

Figure 30
DO NOT ENTER Sign on Reservoir Road Approaching Canal Road

Preliminary Improvement(s):

1. Remove sign and replace with a new sign with the words "at Canal Road" removed.

2. Relocate sign to the final driveway/cross street before Canal Road.

Evaluation:

1. The current wording of this sign implies that the do not enter is at Canal Road. However, for drivers who misinterpret the sign, there is nowhere for them to turn around before reaching Canal Road. Removing "at Canal Road" from the sign removes ambiguity.
2. Relocating the sign to the last driveway/cross street will give drivers a final location to turn around.

Recommendation:

- Replace and relocate sign.

CANAL ROAD

Issue:

- Speeding and reversible lane violations on Canal Road

Preliminary Improvement(s):

1. Long term: install radar cameras every 2,000 feet.
2. Police enforcement of 7:00 PM ending of reversible lane operations.

Evaluation:

1. Placing radar cameras on Canal Road to photograph speeders will slow traffic. The problem with conventional enforcement is the lack of shoulders or other pull-off spots where police could stop motorists. The cameras should be placed every 2,000 feet so that motorists are aware that their speed is being monitored throughout the entire corridor.
2. Due to the fifteen-minute lag built into the reversible lane operation, the inbound lane of Canal Road should be unused between 7:00-7:15 PM. Police could be stationed along Canal Road to cite violators, increasing vehicular safety.

Recommendation:

- Install radar cameras every 2,000 feet.

Issue:

- Pedestrian safety and traffic operations at Reservoir Road/Fletcher's Boathouse

Preliminary Improvement(s):

1. Prohibit the following movements at all times:
    - Right turns from inbound Canal to boathouse driveway
    - Right turns from outbound Canal to Reservoir
    - Left turns from Reservoir to inbound Canal
    - Left turns from boathouse driveway to outbound Canal
2. Extend dashed line across boathouse driveway to retaining wall along inbound Canal Road.
3. Install reflectorized plate on wall separating inbound Canal road from boathouse driveway.
4. Install custom-designed energy attenuators, mounted on the wall, which fit in with the architectural and historical surroundings.
5. Mid-term: Fully signalize the intersection.
6. Mid-term: Install actuated pedestrian signal across Canal Road. Construct

sidewalk on Reservoir Road from opposite the end of existing sidewalk to location of signal.
7. Long-term: Construct overpass/underpass for pedestrians.

Evaluation:

1. The movements listed above are unsafe and disrupt traffic flow. They should be prohibited. The elimination of these movements is likely to reduce the high number of accidents at this location.
2. The extension of the dashed line would alert drivers, specifically during the PM peak hour, of the abrupt change in alignment of Canal Road and of the wall.
3. The reflectorized plate provides further warning about the presence of the wall.
4. In recent years, there have been several accidents in this location that involved fixed objects. An energy attenuator could lessen the impact of such accidents in the future.
5. Analysis by the Consultant shows that the installation of a signal at this location would provide positive safety and operational benefits, while not negatively impacting intersection or roadway capacity or delay. It would also help to reduce speeds on Canal Road.
6. Full signalization is a more beneficial alternative, but the sidewalk described above should be constructed.
7. This is the best improvement to increase pedestrian safety at this intersection.

Recommendation:

- Short-term: prohibit specified turns and install signs, energy attenuator and pavement markings (1-4).
- Mid-term: fully signalize the intersection (5) and provide new sidewalk (described in 6)
- Long-term: Construct new pedestrian facility (7).

Issue:

- As shown in Figure 31, the signs on Clark Place are in poor condition.

Preliminary Improvement(s):

1. Replace sign assembly at Q Street and Clark Place.
2. Replace ONE WAY and DO NOT ENTER signs on Clark Place near Canal Road.

Evaluation:

1. Signs are in disrepair and hard to read.
2. Signs are in disrepair and hard to read.

Recommendation:

- Replace signs.